What is claimed is:

1   1.   A method of implementing real-time video-
2   audio interaction by data synchronization in an
3   Internet game, comprising the steps of:
4   establishing an Internet transmission channel
5   between a first internet game client and a
6   second internet game client, wherein the
7   Internet transmission channel is not
8   connected to an Internet game server;
9   executing an internet game in the first Internet
10   game client and the second internet game
11   client and connecting the first and second
12   Internet game clients to the internet game
13   server;
14   retrieving first real-time video data and first
15   real-time audio data in the first internet
16   game client in the Internet game;
17   compressing/encoding the first real-time video
18   data into a plurality of first video data
19   frames, and compressing/encoding the first
20   real-time audio data into a plurality of
21   first audio data packets in the first
22   Internet game client;
23   packaging the first video data frames and the
24   first audio data packets into a transmission
25   package in the first Internet game client
26   and attaching a time stamp to transmission
27   package, wherein the time stamp expresses

28   the synchronous relationship between the
29   first real-time video and audio data;
30   transmitting the transmission package to the
31   second Internet game client through the
32   Internet transmission channel;
33   decoding the transmission package into second
34   real-time video data and second real-time
35   audio data in the second Internet game
36   client; and
37   synchronizing the second real-time video and
38   audio data according to the time stamp, and
39   outputting the second real-time audio and
40   video data in the second Internet game
41   client in the Internet game.

1   2.   The method as claimed in claim 1, wherein
2 the establishment of the Internet transmission channel
3 further comprises the steps of:
4   designating an Internet address of the second
5   Internet game client directly or according
6   to a directory by the first Internet game
7   client, wherein the directory includes the
8   Internet address of the second Internet game
9   client;
10   transmitting a connection request from the first
11   Internet game client to the second Internet
12   game client; and
13   establishing the Internet transmission channel by
14   the second Internet game client in response
15   to the connection request.

21

1   3.   The method as claimed in claim 1, wherein if

2   the bandwidth of the Internet transmission channel

3   cannot transmit the first real-time audio data and the

4   first real-time video data simultaneously, the first

5   real-time audio data takes priority over first real-

6   time video data.

1   4.   The method as claimed in claim 1, wherein

2   the time stamp provides is time information required

3   to produce the first real-time video data and the

4   first real-time audio data.

1   5.   The method as claimed in claim 1, wherein

2   the synchronization is achieved by adding the system

3   time of the second internet game client to the time

4   stamp to generate the display time of the second real-

5   time video and audio data.

1   6.   The method as claimed in claim 1, wherein

2   synchronization is achieved by comparing the time

3   stamp the amount of the frames dropped by the second

4   real-time video data.

1   7.   The method as claimed in claim 1, wherein

2   playback of the second real-time video data is

3   accomplished by integrating the second real-time video

4   data into the game environments of the Internet game

5   as texture mapping.

1   8.   A system of implementing real-time video-

2   audio interaction by data synchronization in an

3   Internet game, comprising:

4   an Internet game server, executing an Internet

5   game; and

6   a plurality of Internet game clients, comprising

7   a first Internet game client, a second

8   Internet game client, and an Internet

9   transmission channel, the first and the

10   second Internet game clients connecting to

11   the Internet game server, the Internet

12   transmission channel coupled to the first

13   Internet game client and the second Internet

14   game client

1   9.   The system as claimed in claim 8, wherein

2 the first internet game client further comprises:

3   a real-time data retriever, retrieving first

4   real-time video data and first real-time

5   audio data from the first Internet game

6   client;

7   a data encoder, coupled to the real-time data

8   retriever, compressing/encoding the first

9   real-time video data into a plurality of

10   first video data frames, and compressing

11   /encoding the first audio data into a

12   plurality of first audio data packets;

13   a transmission packager, coupled to the data

14   encoder, packaging the first video data

15   frames and the first audio data packets into

16   a transmission package and attaching a time

17   stamp into the transmission package, wherein

18   the time stamp expresses the synchronous

19   relationship between the first real-time

20   video data and the first real-time audio

21   data; and

22   an Internet sender, coupled to the transmission

23   packager, transmitting the transmission

24   package to the second Internet game client

25   through the Internet transmission channel.

1   10. The system as claimed in claim 9, wherein if

2 the bandwidth of the Internet transmission channel

3 cannot transmit the first real-time audio data and the

4 first real-time video data simultaneously, the first

5 real-time audio data takes priority over first real-

6 time video data.

1   11. The system as claimed in claim 9, wherein

2 the time stamp provides the time information required

3 to produce the first real-time video data and the

4 first real-time audio data.

1   12. The system as claimed in claim 8, wherein

2 the second Internet game client further comprises:

3   a data decoder, coupled to the Internet

4   transmission channel, decoding the

5   transmission package into second video data

6   and second audio data;

7   a video-audio playback system, coupled to the

8   data decoder, synchronizing the second real-

9   time video and the second real-time audio

10   data according to the time stamp and

11   outputting the second video data and the

12   second audio data.

1   13.   The system as claimed in claim 12, wherein

2 synchronization is achieved by adding the system time

3 of the second internet game client to the time stamp

4 to generate the display time of the second real-time

5 video and audio data.

1   14.   The system as claimed in claim 12, wherein

2 synchronization is achieved by comparing the time

3 stamp the amount of the frames dropped by the second

4 real-time video data.

1   15.   The system as claimed in claim 12, wherein

2 the video-audio playback system integrates the second

3 real-time video data into the game environments of the

4 Internet game as texture mapping.

1   16.   The system as claimed in claim 8, wherein

2 the internet transmission channel is established by

3 assigning an Internet address to the second Internet

4 game client directly or according to a directory by

5 the first Internet game client, transmitting a

6 connecting request from the first Internet game client

7 to the second Internet game client, and the second

8 Internet game client establishing the Internet

9 transmission channel according to the connecting

10 request, wherein the directory includes the Internet

11 address of the second Internet game client.

1   17. A method of implementing real-time
2 interaction by video-audio synchronization between
3 Internet game clients, wherein the Internet game
4 client connects to an Internet game server, and
5 executes an Internet game, comprising the steps of:
6   establishing an Internet transmission channel to
7   an external Internet game client, wherein
8   the Internet transmission channel is not
9   connected to the Internet game server;
10   a real-time data retriever retrieving first real-
11   time video data and first real-time audio
12   data;
13   compressing/decoding the first real-time video
14   data and the first real-time audio data into
15   a first transmission package and attaching a
16   time stamp to the . transmission package,
17   wherein the time stamp expresses the
18   synchronous relationship between the video
19   and audio data;
20   transmitting the first transmission package
21   through the Internet transmission channel;
22   receiving a second transmission package through
23   the Internet transmission channel;
24   decompressing/decoding the second transmission
25   package into second real-time video data and
26   second real-time audio data; and
27   synchronizing the second real-time video and the
28   second real-time audio data according to the
29   time stamp, and outputting the second real-

30   time audio data and video data in the game
31   environment.

1   18. The method as claimed in claim 17, wherein
2 the establishment of the Internet transmission channel
3 further comprises the steps of:
4   designating an Internet address of a third
5   external Internet game client by the
6   Internet game client or the external
7   Internet game client;
8   transmitting a connecting request to the third
9   Internet game client by the Internet game
10   client or the external Internet game client
11   according to the Internet address; and
12   establishing the Internet transmission channel
13   between the Internet game client and the
14   third Internet game client.

1   19. The method as claimed in claim 17, wherein
2 if the bandwidth of the internet transmission channel
3 cannot transmit the first real-time audio data and the
4 first real-time video data simultaneously, the first
5 real-time audio data takes priority over first real-
6 time video data.

1   20. The method as claimed in claim 17, wherein
2 in the establishing step, the Internet transmission
3 channel is established according to a directory,
4 having an Internet address of the third external
5 Internet game client.

27

1   21. The method as claimed in claim 17, wherein

2   synchronization is achieved by adding the system time

3   of the second internet game client to the time stamp

4   to generate the display time of the second real-time

5   video and audio data.

1   22. The method as claimed in claim 17, wherein

2   synchronization is achieved by comparing the time

3   stamp the amount of the frames dropped by the second

4   real-time video data.

1   23. The method as claimed in claim 17, wherein

2   playback of the second video data is accomplished by

3   integrating the second real-time video data into the

4   game environment as texture mapping.

1   24. A storage medium for storing a computer

2   program providing a method of implementing real-time

3   video-audio interaction by data synchronization

4   between Internet game clients, wherein the Internet

5   game client connects to an Internet game server, and

6   executes an Internet game, the computer program

7   comprising using a computer to perform the steps of:

8   establishing an Internet transmission channel to

9   an external Internet game client, wherein

10   the Internet transmission channel is not

11   connected to the Internet game server;

12   a real-time data retriever retrieving first real-

13   time video data and first real-time audio

14   data;

28

15　　compressing/decoding the first real-time video
16　　　　　data and the first real-time audio data into
17　　　　　a first transmission package, and attaching
18　　　　　a time stamp into the transmission package,
19　　　　　wherein the time stamp expresses the
20　　　　　synchronous relationship between the video
21　　　　　and audio data;
22　　transmitting the first transmission package
23　　　　　through the Internet transmission channel;
24　　receiving a second transmission package through
25　　　　　the Internet transmission channel;
26　　decompressing/decoding the second transmission
27　　　　　package into second real-time video data and
28　　　　　second real-time audio data; and
29　　synchronizing the second real-time video and the
30　　　　　second real-time audio data according to the
31　　　　　time stamp, and outputting the second real-
32　　　　　time audio data and video data in the game
33　　　　　environment.

1　　25. The method as claimed in claim 24, wherein
2　the establishment of the Internet transmission channel
3　further comprises the steps of:
4　　designating an Internet address of a third
5　　　　　external Internet game client by the
6　　　　　Internet game client or the external
7　　　　　Internet game client;
8　　transmitting a connecting request to the third
9　　　　　Internet game client by the Internet game

10   client or the external Internet game client

11   according to the Internet address; and

12   establishing the Internet transmission channel

13   between the Internet game client and the

14   third Internet game client.

1   26.   The method as claimed in claim 24, wherein

2 if the bandwidth of the internet transmission channel

3 cannot transmit the first real-time audio data and the

4 first real-time video data simultaneously, the first

5 real-time audio data takes priority over first real-

6 time video data.

1   27.   The method as claimed in claim 24, wherein

2 in the establishing step, the Internet transmission

3 channel is established according to a directory,

4 having an Internet address of the third external

5 Internet game client.

1   28.   The method as claimed in claim 24, wherein

2 synchronization is achieved by adding the system time

3 of the second internet game client to the time stamp

4 to generate the display time of the second real-time

5 video and audio data.

1   29.   The method as claimed in claim 24, wherein

2 synchronization is achieved by comparing the time

3 stamp the amount of the frames dropped by the second

4 real-time video data.

1   30.   The method as claimed in claim 24, wherein

2 playback of the second video data is accomplished by

3   integrating the second real-time video data into the

4   game environment as texture mapping.

1   31. A computer system of an Internet game,

2   executing an Internet game and having a storage medium

3   for storing a computer program, wherein the computer

4   program is applied to a computer system and executes

5   the method of real-time video-audio interaction

6   between Internet game clients, the Internet game

7   client connecting to an Internet game server,

8   executing an Internet game, and outputting a game

9   environment, the method comprising the steps of:

10   establishing an Internet transmission channel to

11   an external Internet game client, wherein

12   the Internet transmission channel is not

13   connected to the Internet game server;

14   a real-time data retriever retrieving first real-

15   time video data and first real-time audio

16   data;

17   compressing/decoding the first real-time video

18   data and the first real-time audio data into

19   a first transmission package, and attaching

20   a time stamp into the transmission package,

21   wherein the time stamp expresses the

22   synchronous relationship between the video

23   and audio data;

24   transmitting the first transmission package

25   through the Internet transmission channel;

26   receiving a second transmission package through

27   the Internet transmission channel;

28   decompressing/decoding the second transmission
29   package into second real-time video data and
30   second real-time audio data; and
31   synchronizing the second real-time video and the
32   second real-time audio data according to the
33   time stamp, and outputting the second real-
34   time audio data and video data in the game
35   environment.

1   32. The method as claimed in claim 31, wherein
2   the establishment of the Internet transmission channel
3   further comprises the steps of:
4   designating an Internet address of a third
5   external Internet game client by the
6   Internet game client or the external
7   Internet game client;
8   transmitting a connecting request to the third
9   Internet game client by the Internet game
10   client or the external Internet game client
11   according to the Internet address; and
12   establishing the Internet transmission channel
13   between the Internet game client and the
14   third Internet game client.

1   33. The method as claimed in claim 31, wherein
2   if the bandwidth of the internet transmission channel
3   cannot transmit the first real-time audio data and the
4   first real-time video data simultaneously, the first
5   real-time audio data takes priority over first real-
6   time video data.

1   34. The method as claimed in claim 31, wherein
2   in the establishing step, the Internet transmission
3   channel is established according to a directory,
4   having an Internet address of the third external
5   Internet game client.

1   35. The method as claimed in claim 31, wherein
2   synchronization is achieved by adding the system time
3   of the second internet game client to the time stamp
4   to generate the display time of the second real-time
5   video and audio data.

1   36. The method as claimed in claim 31, wherein
2   synchronization is achieved by comparing the time
3   stamp the amount of the frames dropped by the second
4   real-time video data.

1   37. The method as claimed in claim 31, wherein
2   playback of the second video data is accomplished by
3   integrating the second real-time video data into the
4   game environment as texture mapping.

1   38. A method of implementing real-time video-
2   audio interaction by data synchronization in an
3   internet game for applying in a first Internet game
4   client and a second Internet game client, wherein the
5   first and second Internet game client execute an
6   Internet game and connect to an Internet game server,
7   comprising the steps of:
8   establishing an Internet transmission channel
9   between the first Internet game client and

10   the second Internet game client, wherein the

11   Internet   transmission   channel   is   not

12   connected to the Internet game server;

13   retrieving first real-time video data and first

14   real-time audio data in the first Internet

15   game client;

16   producing a plurality of first video data frames

17   and a plurality of first audio data packets;

18   packaging the first video data frames and the

19   first audio data packets into a transmission

20   package and attaching a time stamp into the

21   transmission package, wherein the time stamp

22   expresses   the   synchronous   relationship

23   between the first real-time video and audio

24   data;

25   transmitting the transmission package to the

26   second Internet game client;

27   decoding the transmission package into second

28   real-time video data and second real-time

29   audio data; and

30   synchronizing the second real-time audio and

31   video data according to the time stamp, and

32   outputting the second real-time audio data

33   and video data in the Internet game in the

34   second Internet game client.

1   39. The method as claimed in claim 38, wherein

2   the establishing step further comprises the steps of:

3   designating an Internet address of the second

4   Internet game client directly or according

5   to a directory by the first Internet game

6   client, wherein the directory includes the

7   Internet address of the second Internet game

8   client;

9   transmitting a connection request from the first

10   Internet game client to the second Internet

11   game client; and

12   establishing the Internet transmission channel by

13   the second Internet game client in response

14   to the connection request.

1   40.   The method as claimed in claim 38, wherein

2   the first real-time audio data is primarily packaged

3   in the first transmission package, and the remaining

4   bandwidth is used for packaging the first real-time

5   video data.

1   41.   The method as claimed in claim 38, wherein

2   the first video data frames and the first audio data

3   frames are produced by compressing/encoding.

1   42.   The method as claimed in claim 38, wherein

2   the transmission package is transmitted to the second

3   Internet game client through the Internet transmission

4   channel.

1   43.   The method as claimed in claim 38, wherein

2   the synchronization is based on system time of the

3   second Internet game client adding the time stamp as

4   display time of the second real-time video and audio

5   data.

44. The method as claimed in claim 38, wherein synchronization is achieved by comparing the time stamp the amount of the frames dropped by the second real-time video data.

5   45. A system of implementing real-time video-audio interaction by data synchronization in an Internet game for application to a first Internet game client, a second Internet game client, and an internet game server, wherein the Internet game server executes

10   an Internet game, the system comprising:

an Internet transmission channel, the first Internet game client and the second Internet game client connecting to the Internet game server to execute the Internet game, the

15   Internet transmission channel coupled to the first and second Internet game clients to execute real-time video-audio interaction.